

Chemigation and Fertigation Rules

The Washington State Department of Agriculture (WSDA) has regulatory authority over the placement of registered pesticides (Washington Administrative Code [WAC] 16-202-1000) and fertilizers (WAC 16-202-2000) into irrigation systems. These rules require that chemigation and fertigation systems must have the appropriate safety devices in place and be properly installed and operating to protect human health and the environment.

Chemigation and fertigation laws require that effective safety devices be installed between (a) the irrigation water source and the point of pesticide or fertilizer injection into the irrigation system and (b) the point of pesticide or fertilizer injection and the tank or container.

What is Chemigation?

Chemigation is the application of pesticides or system maintenance compounds through an irrigation system. Pesticides include herbicides, insecticides, fungicides, rodenticides, fumigants, spray adjuvants, and plant growth regulators. Disinfectants, sanitizers, buffering agents, desiccants, defoliants, and sprout inhibitors are also included under the pesticide definition.

What is Fertigation?

Fertigation is the application of a commercial fertilizer, soil amendment, or reclaimed water from food processing and wastewater treatment facilities with irrigation water. A commercial fertilizer is a substance that contains one or more recognized plant nutrients used for its plant nutrient content and is claimed to have value in promoting plant growth. Also included are lime, gypsum, and mixed or specialty fertilizer.

Chemigation and Fertigation Labels

Pesticide products registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and labeled for application through an irrigation system must include additional use directions. The U.S. Environmental Protection Agency (EPA) requires the product registrant to include labeling provisions for the safe and effective application of a pesticide through an irrigation system and for worker protection.

A pesticide can be used for chemigation **ONLY WHEN THE LABEL STATES THAT THE PRODUCT IS REGISTERED FOR USE IN A CHEMIGATION SYSTEM.** The label will also identify approved irrigation systems with the required safety devices. Otherwise, the label must note: "Do not apply this product through any type of irrigation system."

Pesticide labels require chemigation backflow safety devices and system interlocks to be in place and properly functioning before the product can be used. While pesticide labels must list the safety devices required, state laws can be more restrictive. Without the proper safety devices on the irrigation system or without their proper operation, product use is deemed inconsistent with label provisions and with Washington State chemigation rule.

Fertilizer product labels typically do not have use directions for application through an irrigation system. However, the Washington State fertigation law does require a backflow prevention system and an interlock device to be properly installed and functioning.

Operators may also contact the WSDA Chemigation and Fertigation Technical Assistance Program located in Moses Lake for assistance.

Potential Risks

Chemigation and fertigation can be effective and safe methods of applying certain chemicals to plants or to soil. However, a chemigation or fertigation system cannot draw water from any water supply unless that source is protected from contamination. To protect the water source from contamination, the irrigation system must be equipped with appropriate backflow devices to prevent backpressure and backsiphoning.

The greatest risk of chemigation and fertigation is the potential for accidental backflow of a chemical into the irrigation water source. To prevent contamination, an irrigation system along with anti-pollution safety devices must be properly installed, operated, and maintained. Chemigation or fertigation should not be performed under the following conditions.

- ◆ Injection of a pesticide or fertilizer into an irrigation system on the suction side of the irrigation pump.
- ◆ Direct connection of an irrigation system to a public water system.

There are three primary ways that irrigation water sources can be polluted. They are:

- ◆ Chemical in the supply tank and in the irrigation pipeline backflows or is siphoned into the water source when the irrigation system shuts down.
- ◆◆ The irrigation system shuts down but the chemigation/fertigation system continues to inject the chemical into the irrigation water supply. With the loss of system pressure or with the reduction in water flow as to adversely affect application rate, the system interlock must discontinue product injection.

- ◆◆◆ The chemigation system shuts down while the irrigation system continues to operate, forcing water into the chemical supply tank. This may result in the overflow of the chemical supply tank and spillage onto the ground.

Corrective action to remedy the contamination of a well or an open water system due to the backflow of an agricultural chemical is limited and may not be possible. Besides rendering a water supply unfit for human use, the potential impact to human health and the environment can be catastrophic.

The licensed chemigation operator or the supervising certified applicator is responsible for ensuring that pollution risks are minimized through the proper installation, operation, and maintenance of the safety devices and of the irrigation system. Safety device requirements for chemigation are listed on the product label as well as in state regulations.

Fertilizers and Irrigation Systems

Although fertilizer labeling does not contain the restrictive use requirements of pesticides, the human health and environmental impacts can still be substantial. Fertigation system operators must adhere to state regulations by ensuring that safety devices are in place and properly functioning. WSDA staff will be happy to assist you with a system inspection.

Licensing Requirements

With chemigation, no distinction is made between general use and restricted use pesticides. Any pesticide application through an irrigation system can only be made by someone who is properly licensed as a certified applicator or who is under the direct supervision of a properly certified applicator.

The Role of WSDA

The goal of the WSDA Chemigation and Fertigation Technical Assistance Program is to help operators protect human health and the environment from the potential hazard of pesticides and fertilizers. To accomplish this goal, WSDA staff will:

- ◆ Generate and distribute materials,
- ◆ Conduct programs and demonstrations,
- ◆ Provide individual consultation, and
- ◆ Perform on-site visits when requested.

WSDA Chemigation and Fertigation Technical Assistance Program activities are conducted in cooperation with agricultural organizations, grower groups, and producer-administered associations as well as other governmental agencies, tribes, and environmental organizations. By increasing operator understanding of the potential impact that irrigation activities have on ground and surface water quality and by implementing appropriate management practices, compliance with Washington state's chemigation and fertigation regulations will be a natural outcome.

For more information about the Chemigation and Fertigation Technical Assistance Program, contact Tom Hoffmann, Technical Assistance Specialist, at (509) 766-2574, or Byron Fitch, Chemigation Compliance Specialist, at (509) 766-2575.

Inquires regarding availability of this publication in alternative formats should be directed to the WSDA Water Quality Program Manager at (360) 902-2047 or Telecommunications Device for the Deaf at (360) 902-1996.

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TECHNICAL ASSISTANCE PROGRAM

Washington State
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